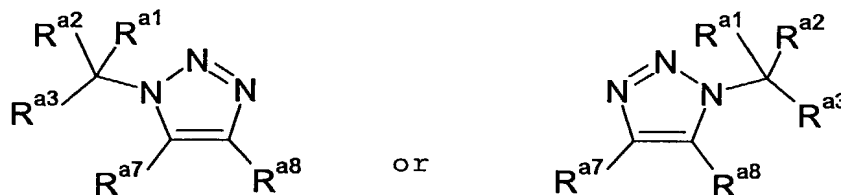


## WHAT IS CLAIMED IS

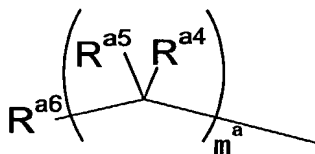
1. A method for producing a compound of the formula:



wherein

5  $R^{a1}$  and  $R^{a2}$  are each a hydrogen atom, a substituted hydroxy, a substituted thiol, a substituted amino, an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group or an acyl;

10  $R^{a3}$  is a group of the formula:



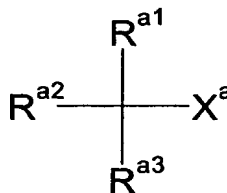
wherein  $R^{a4}$  and  $R^{a5}$  are each a hydrogen atom, an optionally substituted hydroxy, an optionally substituted thiol, an optionally substituted amino, an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group or an acyl, or  $R^{a4}$  and  $R^{a5}$  in combination form oxo,

$R^{a6}$  is an optionally substituted aromatic group, and  $m^a$  is an integer of 0 to 10; or

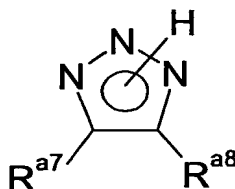
20 two or three from  $R^{a1}$ ,  $R^{a2}$  and  $R^{a3}$  form an optionally substituted ring, together with the adjacent carbon atom; and

$R^{a7}$  and  $R^{a8}$  are each a hydrogen atom, a halogen, an optionally substituted hydroxy, an optionally substituted thiol, an optionally substituted amino, an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group or an acyl,

which method comprises reacting a compound of the formula:



wherein  $X^a$  is a leaving group and other symbols are as defined above, or a salt thereof, and a compound of the formula:



5

wherein each symbol is as defined above, or a salt thereof,  
 (1) in a secondary or tertiary alcohol in the presence of a  
 base, or  
 (2) in the absence of a base.

10

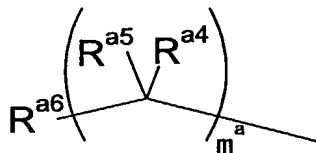
2. The production method of claim 1, which comprises reaction  
 in a secondary or tertiary alcohol in the presence of a base.

3. The production method of claim 1, which comprises reaction  
 15 in a tertiary alcohol in the presence of a base.

4. The production method of claim 1, wherein  $R^{a1}$  is a hydrogen  
 atom.

20 5. The production method of claim 1, wherein  $R^{a1}$  and  $R^{a2}$  are each  
 a hydrogen atom.

6. The production method of claim 1, wherein  $R^{a3}$  is a group of  
 the formula:



wherein each symbol is as defined in claim 1,

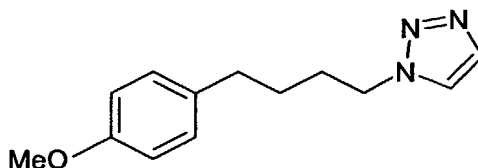
7. The production method of claim 6, wherein  $R^{a4}$  and  $R^{a5}$  are each a hydrogen atom.

8. The production method of claim 6, wherein  $R^{a6}$  is an optionally substituted phenyl.

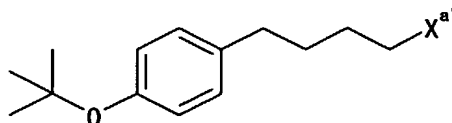
9. The production method of claim 6, wherein  $m^a$  is 3.

10. The production method of claim 1, wherein  $R^{a7}$  and  $R^{a8}$  are each a hydrogen atom.

11. A salt of a compound of the formula:

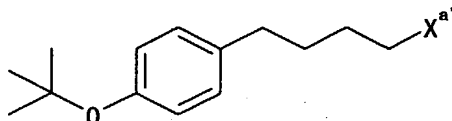


12. A compound of the formula:

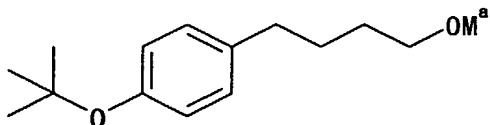


wherein  $X^{a'}$  is a halogen atom,  $OSO_2R^a$  or  $OCOR^a$  wherein  $R^a$  is an optionally substituted hydrocarbon group.

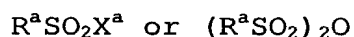
13. A method for producing a compound of the formula:



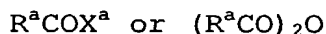
wherein  $X^a$  is a halogen atom,  $OSO_2R^a$  or  $OCOR^a$  wherein  $R^a$  is an optionally substituted hydrocarbon group, which comprises reacting a compound of the formula:



5 wherein  $M^a$  is a hydrogen atom, an alkali metal atom or an alkaline earth metal atom, and 1) thionyl halide, 2) oxalyl halide, 3) a compound of the formula:

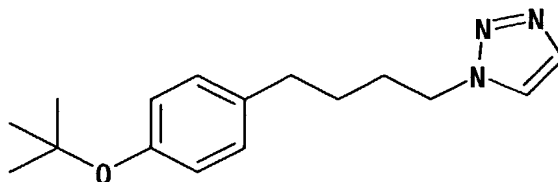


wherein  $R^a$  is as defined above and  $X^a$  is a leaving group, or 4)  
10 a compound of the formula:



wherein  $R^a$  and  $X^a$  are as defined above, under basic conditions.

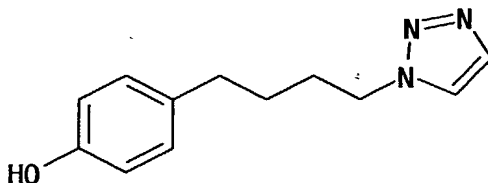
14. A compound of the formula:



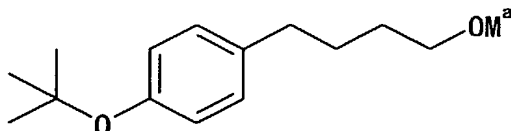
15 or a salt thereof.

15. The production method of claim 1, wherein  $R^{a1}$ ,  $R^{a2}$ ,  $R^{a7}$  and  $R^{a8}$  are each a hydrogen atom and  $R^{a3}$  is 3-[4-(t-  
20 butoxyphenyl)]propyl.

16. A method for producing a compound of the formula:



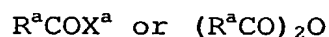
25 which comprises reacting a compound of the formula:



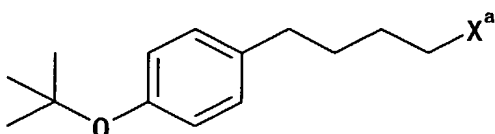
wherein  $M^a$  is a hydrogen atom, an alkaline metal atom or an alkaline earth metal atom, and 1) thionyl halide, 2) oxalyl halide, 3) a compound of the formula:



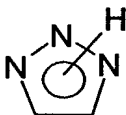
wherein  $R^a$  is an optionally substituted hydrocarbon group and  $X^a$  is a leaving group or 4) a compound of the formula:



wherein  $R^a$  and  $X^a$  are as defined above, under basic conditions  
10 to give a compound of the formula:



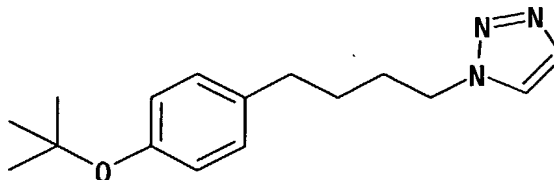
wherein  $X^{a'}$  is a halogen atom,  $OSO_2R^a$  or  $OCOR^a$  wherein  $R^a$  is as defined above, and reacting this compound with a compound of the formula:



15

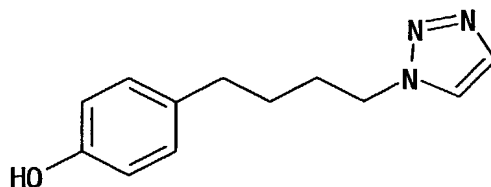
or a salt thereof, (1) in the presence of a base in a secondary or tertiary alcohol, or

(2) in the absence of a base to give a compound of the formula:

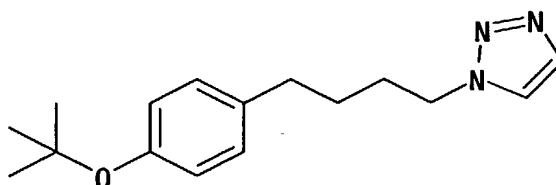


20 and deprotecting this compound.

17. A method for producing a compound of the formula:

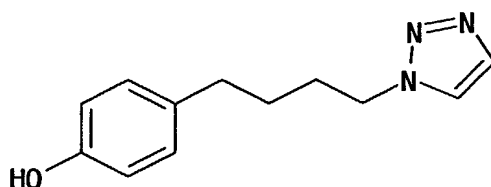


which comprises deprotecting a compound of the formula:

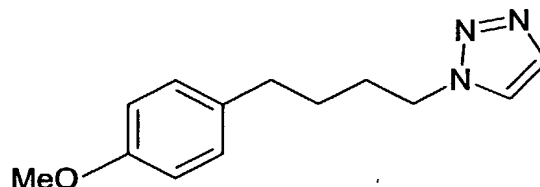


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18. A method for producing a compound of the formula:

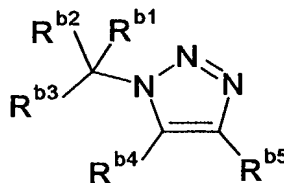


which comprises deprotecting a compound of the formula:



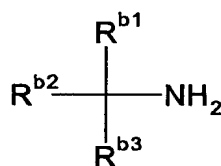
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19. A method for producing a compound of the formula:



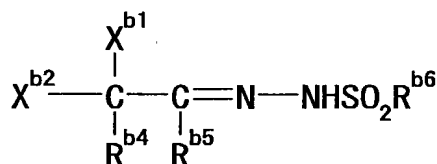
15 wherein  $R^{b1}$ ,  $R^{b2}$  and  $R^{b3}$  are each a hydrogen atom, an optionally substituted hydroxy, an optionally substituted thiol, an optionally substituted amino, an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group or an acyl, or two or three from  $R^{b1}$ ,  $R^{b2}$  and  $R^{b3}$  form, together

with the adjacent carbon atom, an optionally substituted ring,  
 and  $R^{b4}$  and  $R^{b5}$  are each a hydrogen atom, an optionally  
 substituted hydroxy, an optionally substituted thiol, an  
 optionally substituted amino, an optionally substituted  
 5 hydrocarbon group, an optionally substituted heterocyclic group  
 or an acyl, and  $R^{b6}$  is an optionally substituted alkyl or an  
 optionally substituted phenyl, or a salt thereof, which  
 comprises reacting a compound of the formula:



10

wherein each symbol is as defined above, or a salt thereof and  
 a compound of the formula:



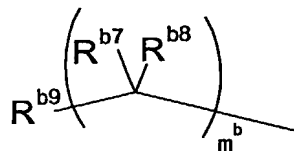
wherein  $X^{b1}$  and  $X^{b2}$  are each a halogen, and  $R^{b4}$ ,  $R^{b5}$  and  $R^{b6}$  are as  
 15 defined above, or a salt thereof, and treating the reaction  
 mixture with a base.

20. The production method of claim 19, wherein  $R^{b1}$  is a hydrogen  
 atom.

20

21. The production method of claim 19, wherein  $R^{b1}$  and  $R^{b2}$  are  
 each a hydrogen atom.

22. The production method of claim 19, wherein  $R^{b3}$  is a group of  
 25 the formula:



wherein  $\text{R}^{b7}$  and  $\text{R}^{b8}$  are each a hydrogen atom, an optionally substituted hydroxy, an optionally substituted thiol, an optionally substituted amino, an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group or an acyl, or  $\text{R}^{b7}$  and  $\text{R}^{b8}$  in combination form oxo,  $\text{R}^{b9}$  is an optionally substituted aromatic group, and  $\text{m}^b$  is an integer of 0 to 10.

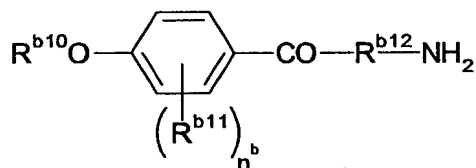
23. The production method of claim 22, wherein  $\text{R}^{b7}$  and  $\text{R}^{b8}$  are each a hydrogen atom,  $\text{R}^{b9}$  is an optionally substituted phenyl, and  $\text{m}^b$  is 3.

24. The production method of claim 23, wherein  $\text{R}^{b1}$  and  $\text{R}^{b2}$  are each a hydrogen atom.

25. The production method of claim 19, wherein  $\text{R}^{b4}$  and  $\text{R}^{b5}$  are each a hydrogen atom.

26. The production method of claim 19, wherein  $\text{R}^{b6}$  is a phenyl substituted by alkyl.

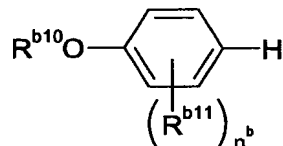
27. A method for producing a compound of the formula:



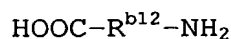
wherein,  $\text{R}^{b10}$  is an optionally substituted amino, an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group or an acyl,  $\text{R}^{b11}$  is a substituent,  $n$  is an integer of 0 to 4, and  $\text{R}^{b12}$  is an optionally substituted



alkylene, an optionally substituted alkenylene or an optionally substituted alkynylene, or a salt thereof, which comprises reacting a compound of the formula:



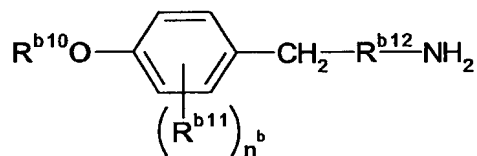
5 wherein each symbol is as defined above, or a salt thereof and a compound of the formula:



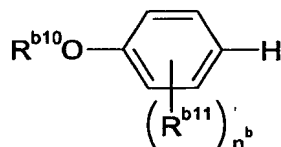
wherein R<sup>b12</sup> is as defined above, a salt thereof or a reactive derivative thereof.

10

28. A method for producing a compound of the formula:

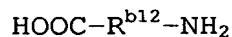


wherein each symbol is as defined in claim 27, or a salt thereof, which comprises reacting a compound of the formula

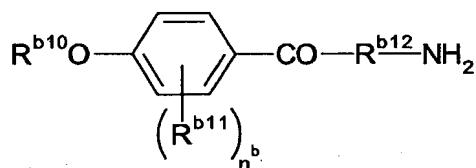


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wherein each symbol is as defined above, or a salt thereof, and a compound of the formula

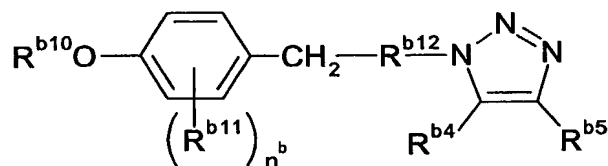


wherein R<sup>b12</sup> is as defined above, or a salt thereof or a  
20 reactive derivative thereof, and reducing the resulting compound of the formula



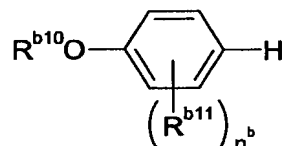
wherein each symbol is as defined above, or a salt thereof.

29. A method for producing a compound of the formula:

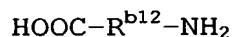


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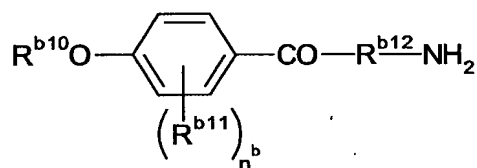
wherein each symbol is as defined in claim 27, or a salt thereof, which comprises reacting a compound of the formula



wherein each symbol is as defined above, or a salt thereof, and  
10 a compound of the formula

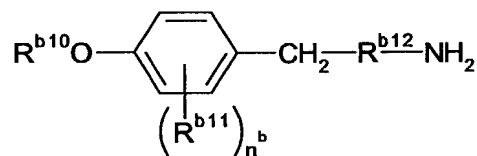


wherein  $\text{R}^{b12}$  is as defined above, a salt thereof or a reactive derivative thereof, reducing the resulting compound of the formula

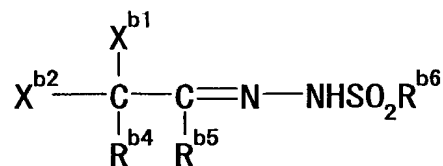


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wherein each symbol is as defined above, or a salt thereof, reacting the resulting compound of the formula



wherein each symbol is as defined above, or a salt thereof with  
20 a compound of the formula

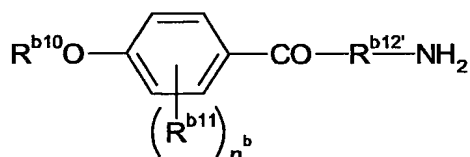


wherein each symbol is as defined in claim 19, or a salt thereof, and treating the reaction mixture with a base.

- 5 30. The production method of claim 29, wherein  $R^{b4}$  and  $R^{b5}$  are each a hydrogen atom,  $R^{b10}$  is a  $C_{1-3}$  alkyl,  $R^{b12}$  is a trimethylene and  $n^b$  is 0.

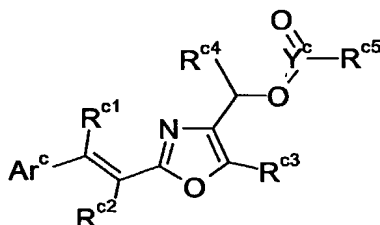
31. A trifluoromethanesulfonate of a compound of the formula:

10



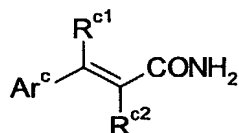
wherein  $R^{b12'}$  is trimethylene and other symbols are as defined in claim 27.

- 15 32. A method for producing a compound of the formula:

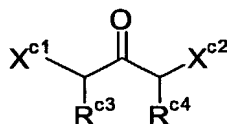


wherein  $\text{Ar}^c$  is an optionally substituted aromatic group,  $R^{c1}$  and  $R^{c2}$  are each a hydrogen atom or a lower alkyl,  $R^{c3}$  and  $R^{c4}$  are each a hydrogen atom or a lower alkyl,  $\text{Y}^c$  is C, S or SO and  $R^{c5}$  is a hydrogen atom, a lower alkyl, an optionally substituted phenyl, an optionally substituted benzyloxy or an optionally substituted benzylamino, or a salt thereof, which comprises reacting a reaction mixture of a compound of the formula:

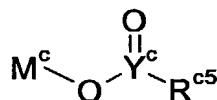
20



wherein each symbol is as defined above, or a salt thereof and a compound of the formula:



5 wherein  $X^{c1}$  and  $X^{c2}$  are each a halogen, and other symbols are as defined above, or a salt thereof, with a compound of the formula:

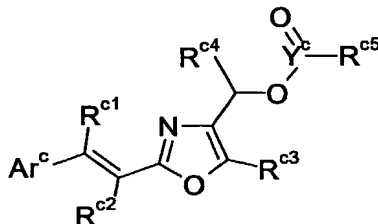


wherein  $M^c$  is a hydrogen atom or a metal, and other symbols are  
10 as defined above, or a salt thereof.

33. The production method of claim 32, wherein  $Ar^c$  is 4-trifluoromethylphenyl.

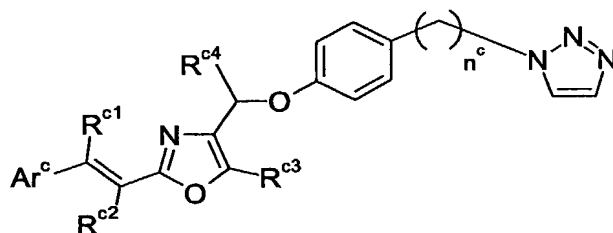
15 34. The production method of claim 32, wherein  $R^{c1}$ ,  $R^{c2}$ ,  $R^{c3}$  and  $R^{c4}$  are each a hydrogen atom and  $R^{c5}$  is methyl.

35. The compound of the formula

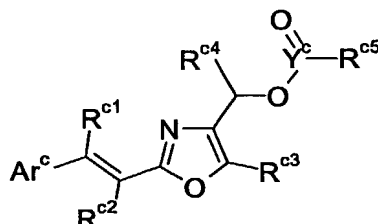


20 wherein each symbol is as defined in claim 32, or a salt thereof.

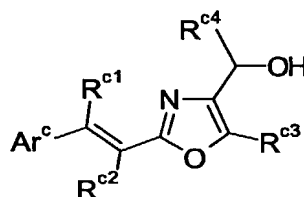
36. A method for producing a compound of the formula:



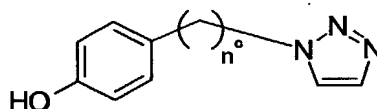
wherein each symbol is as defined in claim 32, or a salt thereof, which comprises subjecting a compound of the formula



5 wherein each symbol is as defined above, or a salt thereof to hydrolysis or catalytic reduction, subjecting the obtained compound of the formula:



wherein each symbol is as defined above, or a salt thereof to  
10 sulfonylation or halogenation, and reacting the compound with a compound of the formula:

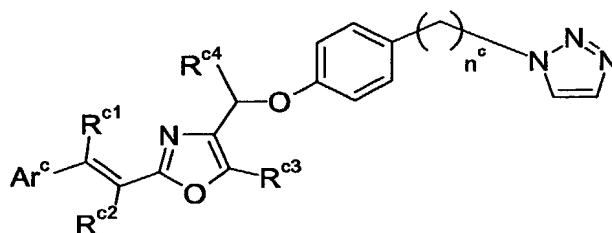


wherein  $n^c$  is an integer of 1 to 10, or a salt thereof.

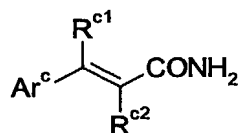
15 37. The production method of claim 36, wherein  $Ar^c$  is 4-trifluoromethylphenyl.

38. The production method of claim 36, wherein  $R^{c1}$ ,  $R^{c2}$ ,  $R^{c3}$  and  $R^{c4}$  are each a hydrogen atom,  $R^{c5}$  is methyl and  $n^c$  is 4.

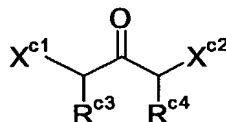
39. A method for producing a compound of the formula



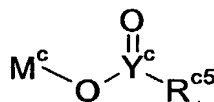
wherein each symbol is as defined in claim 32, or a salt thereof, which comprises reacting a reaction mixture of a  
5 compound of the formula:



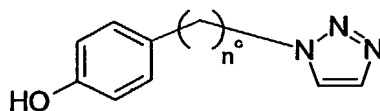
wherein each symbol is as defined above, or a salt thereof and a compound of the formula:



10 wherein R<sup>c3</sup> and R<sup>c4</sup> are as defined above and X<sup>c1</sup> and X<sup>c2</sup> are as defined in claim 32, or a salt thereof, with a compound of the formula:



wherein each symbol is as defined in claim 32, or a salt thereof, subjecting the resulting compound to hydrolysis or  
15 catalytic reduction, and reacting the obtained compound with a compound of the formula:



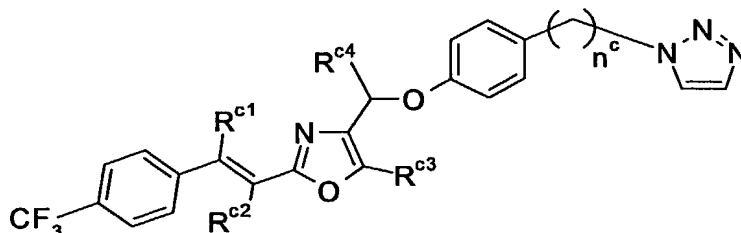
wherein n<sup>c</sup> is as defined above, or a salt thereof.

20

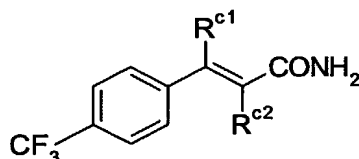
40. The production method of claim 39, wherein Ar<sup>c</sup> is 4-trifluoromethylphenyl.

41. The production method of claim 39, wherein  $R^{c1}$ ,  $R^{c2}$ ,  $R^{c3}$  and  $R^{c4}$  are each a hydrogen atom,  $R^{c5}$  is methyl and  $n^c$  is 4.

5 42. A method for producing a compound of the formula:

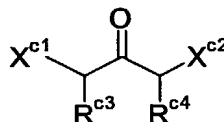


wherein  $n^c$  is an integer of 1 to 10 and other symbols are as defined in claim 32, or a salt thereof, which comprises subjecting a reaction mixture of a compound of the formula:



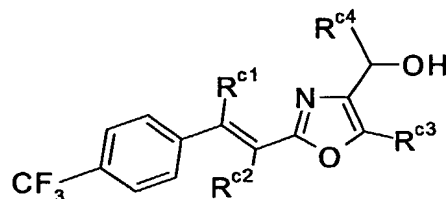
10

wherein each symbol is as defined above, or a salt thereof and a compound of the formula



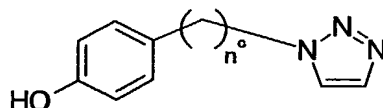
wherein  $R^{c3}$  and  $R^{c4}$  are as defined above and  $X^{c1}$  and  $X^{c2}$  are as defined in claim 32, or a salt thereof, to hydrolysis, subjecting the resulting compound of the formula

15



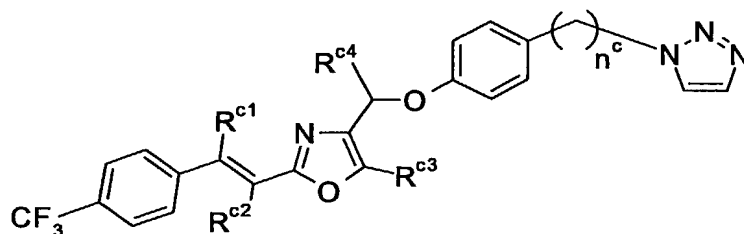
wherein each symbol is as defined above, or a salt thereof to sulfonylation or halogenation, and reacting the resulting compound with a compound of the formula

20

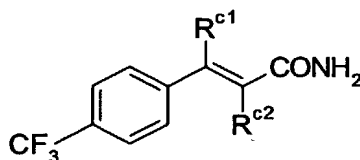


wherein  $n^c$  is as defined above, or a salt thereof.

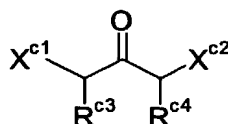
43. A method for producing a compound of the formula



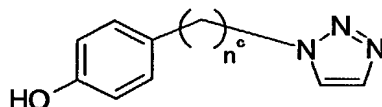
wherein n<sup>c</sup> is an integer of 1 to 10 and other symbols are as defined in claim 32, or a salt thereof, which comprises reacting a reaction mixture of a compound of the formula



10 wherein each symbol is as defined above, or a salt thereof and  
a compound of the formula:



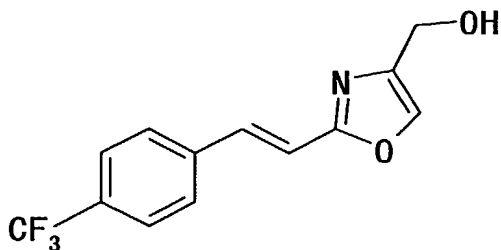
wherein  $R^{c3}$  and  $R^{c4}$  are as defined above and  $X^{c1}$  and  $X^{c2}$  are as defined in claim 32, or a salt thereof, with a compound of the  
15 formula:



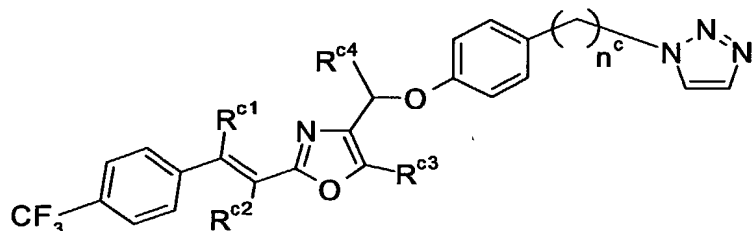
wherein  $n^c$  is as defined above, or a salt thereof.

44. A compound of the formula:

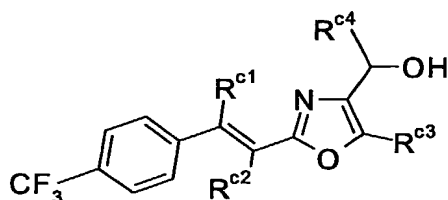




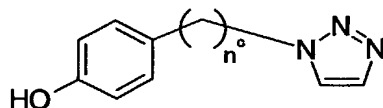
45. A method for producing a compound of the formula



5 wherein  $n^c$  is an integer of 1 to 10 and other symbols are as defined in claims 32, or a salt thereof, which comprises subjecting a compound of the formula



10 wherein each symbol is as defined above, or a salt thereof to sulfonylation or halogenation, and reacting the resulting compound with a compound of the formula



wherein  $n^c$  is as defined above, or a salt thereof.

15 46. 1-[4-[4-[[2-[(E)-2-[4-(Trifluoromethyl)phenyl]ethenyl]-1,3-oxazol-4-yl]methoxy]phenyl]butyl]-1H-1,2,3-triazole.

47. The crystal of claim 46, having characteristic peaks at diffraction angles of 6.98, 14.02, 17.56, 21.10 and 24.70

degrees in powder X-ray diffraction.

48. A pharmaceutical composition comprising the crystal of claim 46.

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